

DISTINGUISHING TILT AND TRANSLATION MOTION  
COMPONENTS IN HANDHELD DEVICES

ABSTRACT

A motion controlled handheld device includes a first accelerometer operable to detect acceleration along a first axis and a second accelerometer operable to detect acceleration along a second axis. The second axis is perpendicular to the first axis.

5     The device includes a tilt detection component operable to detect rotation having a component around at least one of the first axis and the second axis and a display operable to present a current image. The device includes a motion tracking module operable to track motion of the device in three dimensions using the first accelerometer, the second accelerometer, and the tilt detection component. The

10    device also includes a controller operable to generate the current image and to modify the current image in response to the motion of the device.